

U.S. Ethanol Use Dampens Global Crude Oil Prices



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Ethanol is the world's most widely used liquid biofuel in the transportation sector. A recent ERS study found that increasing ethanol in the U.S. gasoline supply would lead to lower crude oil prices than would otherwise have been the case. A one-time 5-percent increase in U.S. ethanol use will lower the crude oil price by an estimated 8 cents per barrel over 12 months.

The U.S. is the world's largest ethanol producer and currently holds a 57-percent share of global ethanol production. In 2010, about 13 billion gallons of ethanol

were blended into the U.S. gasoline supply, accounting for about 9.5 percent of gasoline consumption. The Renewable Fuel Standard (RFS) established by the Energy Independence and Security Act (EISA) of 2007 mandates annual use of 36 billion gallons of renewable fuel in the U.S. by 2022. If the RFS is met, ethanol's share of U.S. gasoline consumption could reach 25 percent within the next 10 years.

The impact of U.S. ethanol use on crude oil markets will become important as the portion of gasoline blended from etha-

nol grows from its current level of around 10 percent to the RFS level of 25 percent by 2022. Given the role that petroleum prices can play in economic growth prospects, global economic forecasts should take into account the outlook for the U.S. ethanol industry because of its effect on crude oil prices. Fluctuations in crude oil prices affect global consumption, production, and trade patterns. Abnormally high prices can contribute to downturns in the world economy. **W**

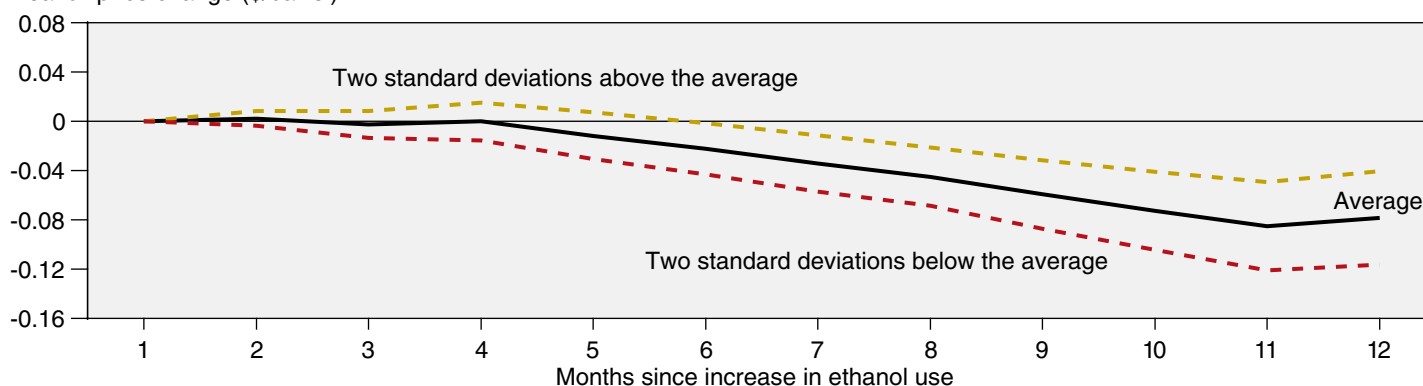
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This finding is drawn from . . .

"Assessing the Impact of U.S. Ethanol on Fossil Fuel Markets: A Structural VAR Approach," by Lihong Lu McPhail, in *Energy Economics*, April 2011.

A 5-percent increase in ethanol use could lower global crude oil prices

Real oil price change (\$/barrel)



Note: Solid line represents average (mean) impact of a 5-percent increase in ethanol use from the previous month. Dotted lines represent two standard deviations from the mean (95 percent of the observations will fall within this range).

Source: USDA, Economic Research Service using data from U.S. Department of Energy, Energy Information Administration, and the Nebraska Energy Office website.